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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,949	12/04/2003	Brian L. Gordon	1677(Touchstone)	7390

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EXAMINER
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JOHNSON, JONATHAN J

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/727,949	<b>Applicant(s)</b> GORDON ET AL.	
	<b>Examiner</b> Jonathan Johnson	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Claim Objections***

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 23 has been renumbered claim 9.

### ***Claim Objections***

Claims 2-9 are objected to because of the following informalities: Please change the dependency of claims 2-9 to claim 1. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (5,886,313) in view of Joseph (5,968,671). Krause et al. teach fabricating structural members by providing a surface addressed by a compaction device (Figure 1, item 6); angularly feeding a

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tape-like workpiece at the point of contact between the mandrel surface and the compaction device so as to form a junction (Figure 1, items 8 and 9); impacting the tape-like workpiece with a laser beam at the junction to at least one of the opposing surfaces (Figure 1, item 10); where the laser is stacked multibar infrared laser (col. 6, ll. 45-67); that uses optical lenses (col. 7, ll. 40-67); and uses preheaters of IR lamps (figure 14, item 40); and simultaneously with the impacting of the laser beam, relatively moving the surface or the compaction device so as to take up the tape-like workpiece and pressing the compaction device against the tape-like workpiece so as to cause consolidation of the tape-like workpiece with previously applied layers of the tape-like workpiece on the surface (Figure 1, item 6). Joseph teach joining a metal matrix prepreg tape having opposing surfaces at the point of contact with a layer of brazing material in between (col. 5, ll. 40-50 and col. 1, ll. 31-35) where the matrix of aluminum is selected from the group consisting of carbon, boron, ceramic and glass (col. 3, l. 64 and col. 1, l. 21) where the fiber comprise aluminum oxide (col. 2, l. 19) and where the matrix comprises pure aluminum having aluminum oxide fibers embedded therein (col. 2, ll. 19-21 and col. 1, ll. 31-35) and the tape of 0.5 inches (col. 2, l. 51) and having a sheet of two layers which results in a width of about 0.15 inches thick (col. 2, ll. 59-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Krause et al. to utilize joining the metal matrix prepreg tape in order to obtain a reliable composite for use in the aerospace industry by achieving a strong connection between the coating material and the base material (see Joseph col. 1, ll. 3-27 and Krause et al. col. 1, ll. 10-20).

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Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (5,886,313) and Joseph (5,968,671) as applied to claim 1 and further in view of Izumi (US 5,289,966). Krause et al. teach the use of induction heaters but not IR reflector lamps (col. 13, ll. 1-10). Izumi teach IR reflector lamps for preheating (col. 10, ll. 40-55). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Krause et al. to utilize IR reflector lamps in order to effectively preheat the substrate (see Izumi col. 10, ll. 40-60).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (5,886,313) and Joseph (5,968,671) as applied to claim 1 and further in view of Jeantette (US 6,046,426). Krause et al. teach the use of an optical pyrometer to provide a temperature feedback information to control the laser (col. 8, ll. 9-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the process of Krause et al. to utilize a pyrometer in order to ensure the proper laser power to the workpiece (see Jeantette col. 8, ll. 9-26).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krause et al. (5,886,313) and Joseph (5,968,671) as applied to claim 1 and further in view of Ishikawa et al. (4,779,563). Ishikawa et al. teach apply vibratory energy to the prepreg tape prior to entry into the junction at a frequency between 1000 and 25000 vibrations per minute (col. 5, l. 10 and col. 1, l. 27). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combined invention of Krause et al. and Joseph to utilize the claimed

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vibration frequency in order to ensure the metal fully penetrates between the fibers (see Ishikawa et al. col. 1, ll. 10-25).


***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jonathan Johnson  
Primary Examiner  
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